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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/950,060	09/12/2001	Katsuya Shimomura	2001_1279A	1528

513 7590 11/02/2005

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EXAMINER

LE, HUYEN D

ART UNIT	PAPER NUMBER
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2646

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/950,060

Applicant(s)

SHIMOMURA ET AL.

Examiner

HUYEN D. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-33 and 36-46 is/are rejected.
- 7) ☒ Claim(s) 34 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30-31, 33, 36, 42 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Coen (U.S. patent 3,176,086).

Regarding claims 30, 36, 42 and 45, Coen teaches a loudspeaker that comprises a magnetic circuit (12, 14, 34, 50) having a yoke and a magnetic gap (54), a frame (20) having a clip section (32), a voice coil (56), and a diaphragm (not shown, col. 1, lines 69-70). As shown in the drawings, the yoke has an expansion (26, figures 1, 3, 4) provided at an outer circumference of the yoke and extending outward from the yoke. Further, Coen shows the expansion that has a slot (see the lip 24, the deformations 60 and V-shaped groove 62 in figure 3) provided at an outer circumference of the expansion.

As shown in figures 1-3, the expansion (26) and the at least one clip section couple the magnetic circuit and the frame.

Regarding claim 31, Coen shows the yoke that has at least one additional expansion (58, 60, 62) for coupling the magnetic circuit and the frame (figures 2 and 3).

Regarding claim 33, as broadly claimed, the yoke shows the bottom portion of the yoke that is fitted to the outer cylindrical portion of the yoke at a step as claimed (figure 1).

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3. Claims 30 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitobe (U.S. patent 5,111,510).

Regarding claims 30 and 46, Mitobe teaches a loudspeaker that comprises a magnetic circuit (30, 31, 32, 33, 34) having a yoke (31) and a magnetic gap (not numbered, see figure 1), a frame (10, 11, 16) having a clip section (19, figures 1 and 4(B)), a voice coil (42), and a diaphragm (20). As broadly claimed, the yoke (31) has an expansion (32) provided at an outer circumference of the yoke and extending outward from the yoke. Further, the expansion (32) has a slot (see the slots for the yoke 31, 32 and for receiving the magnet and the plate in figures 1, 4(A) and 4(B)) that is provided at an outer circumference of the expansion.

As shown in figures 1, 4(A) and 4 (B), the expansion (32) and the at least one clip section (19) couple the magnetic circuit and the frame. Further, Mitobe shows the clip section (19) that comprises a tapered portion for coupling with the expansion (32).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 32 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coen (U.S. patent 3,176,086).

Regarding claim 32, Coen does not specifically teach that the frame (20) is made of plastic. However, the examiner takes the Office Notice that providing the frame made of plastic is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the frame of Coen to be made of plastic material for an alternate choice and providing a better connection for connecting the magnetic structure to the flange of the frame.

Regarding claim 37, Coen does not specifically teach a heat radiator as claimed. However, providing a heat radiator for reducing heat in the magnetic circuit is very well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a heat radiator in the magnetic circuit of Coen for better reducing heat in the magnetic circuit.

Regarding claim 38, Coen does not specifically teach a protrusion formed on the expansion of the yoke and a recess in the frame for engagement with the protrusion as claimed. However, Coen does show the frame (20, 32) that is engaged and secured to the yoke (14, 26, figures 1, 2 and 4).

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Therefore, it would have been obvious to one skilled in the art to provide any type of fastening or securing means such as a protrusion on the expansion of the yoke and a recess in the frame of the Coen speaker for better securing the frame to the magnetic circuit.

6. Claims 37, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coen (U.S. patent 3,176,086) in view of Stewart (U.S. patent 6,373,957).

Regarding claims 37, 39 and 41, Coen does not specifically teach a heat radiator that is a cap as claimed. However, providing a heat radiator contacting the yoke in the magnetic circuit for dissipating heat is known in the art.

Stewart shows a heat radiator (70, 72, 74, 78, 82, 84) for contacting the yoke in the magnetic circuit.

Therefore, it would have been obvious to one skilled in the art to provide a heat radiator, as taught by Stewart, in any portions of the yoke in the Coen speaker such as the bottom portion or the cylindrical portion of the yoke for an alternate choice and better reducing heat in the magnetic circuit.

7. Claims 37 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coen (U.S. patent 3,176,086) in view of Sugawara (JA 0121613) or Henricksen (U.S. patent 3,991,286).

Regarding claims 37 and 39-41, Coen does not specifically teach a heat radiator that is a cap or a ring as claimed. However, providing a heat radiator contacting the parts in the magnetic circuit or protruding into a space of a voice for dissipating heat is known in the art.

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Sugawara or Henricksen shows a heat radiator (figures 3 and 5 in Sugawara and figure 3 in Henricksen) contacting the yoke and protruding into a space of a voice as claimed.

Therefore, it would have been obvious to one skilled in the art to provide a heat radiator, as taught by Stewart or Henricksen, in the Coen speaker for better dissipating heat in the magnetic circuit.

8. Claims 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coen (U.S. patent 3,176,086) in view of Knowles (U.S. patent 2,295,483) or Cahill et al. (U.S. patent 5,940,522).

Regarding claims 43-44, Coen does not specifically teach a perforation as claimed. However, providing a hole or a perforation in the coil former that is lower than the level of a damper in a speaker is known in the art.

Knowles or Cahill shows the holes (138, figure 6 in Knowles and 20, figure 1 in Cahill) in the coil bobbin that are lower than the level of the damper.

Therefore, it would have been obvious to one skilled in the art to provide the holes in the coil bobbin, as taught by Knowles or Cahill, in the Coen speaker for better air flowing and removing heat from the voice coil.

Allowable Subject Matter

9. Claims 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 09/06/05 have been fully considered but they are not persuasive.

Responding to the arguments about the limitation of "a slot provided at an outer circumferential of said expansion" in the Coen reference, the examiner refers to the Office Action. Further, the Applicant should note that Coen does show a slot (the slot for receiving the flange 32, the slot at the lip 24, the deformations 60 and V-shaped groove 62) to be provided at the outer circumference of the expansion (26) as claimed (figure 3).

Responding to the arguments about the Mitobe reference, the Applicant should note that Mitobe does show a slot that is provided at the outer circumferential of the expansion as claimed in claim 1 (see the slot in the yoke and the expansion and the slot for receiving the magnet and plate in figures 1 and 4A, 4B).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SINH TRAN can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HL
October 30, 2005



HUYEN LE
PRIMARY EXAMINER